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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2004*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-20* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *14 April 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some *   c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Status of Claims

1.   This is a Non-Final office action in reply to the application filed on 14 April 2004.

2.   Claims 1-20 are currently pending and have been examined.

Priority

3.   Applicant's claim for the benefit of a prior-filed application, Foreign Application No. 10-2003-0025221 , under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

Drawings

4.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **Figure 11, reference character 400**. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5.   In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7.   Claims 1, 3-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8.   As per claim 1 recites the limitations *the cable and wireless communication network*. There is insufficient antecedent basis for these limitations in the claims. Examiner interpreted the claim to read *a cable and wireless communication network*. Claims 3-9 inherit the same deficiencies as claim 1 and are therefore rejected for the same reasons as claim 1. Appropriate correction is required.

9.   As per claims 3 and 4 recites the limitation *the cause*. There is insufficient antecedent basis for these limitations in the claims. Examiner interpreted the claim to read *a cause*. Appropriate correction is required.

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious

at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11.   Claims 1-2 and 4-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwak (US 2003/0065418 A1) in view of Harrison et al (US 2003/0069797 A1) hereinafter "Harrison".

Claim 1:

Kwak as shown discloses a technical support method, the method comprising:

- *transmitting a service request information through a cable and wireless communication networks where the sewing machine is stopped by a fault* (page 1, ¶ 0007 and 0008: which teaches that "an embroidery machine technical support system and method allowing an embroidery (e.g., sewing) machine to communicate with an technical support server" when "an embroidery operation is stopped by the fault of the embroidery machine");

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitation. However, Harrison in an analogous art of providing technical support for the purpose of assigns technicians (e.g., first service personnel) and monitor technicians progress (page 1, ¶ 0006) as shown does:

- *transmitting the received service request information to a terminal of a first service personnel nearest to the (sewing) machine in a service regional center* (Page 2, ¶ 0023 and Figure 8, which it illustrates the assignment process in a service regional center and after receiving the service request information (e.g., work order) performs a distance comparison to assign the nearest personnel to the machine/equipment where a dispatcher assign the work order to a technician (e.g., "the technicians 110 communicate, primarily with the dispatcher"). In addition, page 4 ¶ 0050 Harrison teaches that "[t]he comparison is made between work order i's location and the qualified technicians' assigned start and end points, as well as to other previously assigned work orders. The technician having the minimum

distance" (e.g., a first service personnel nearest) "in any of these comparisons will be assigned the work order");

- *and transmitting a service processing particulars to the service regional center through the terminal of the first service personnel, after the fault service treatment is completed by the first service personnel* (page 2, ¶ 0023 and 0025-0026: which teaches that "[t]echnicians" (e.g., first service personnel) "may communicate over communications system 106 by telephone, cellular telephone, radio, wireless computer, or any other means of communicating" (e.g., the terminal) to the service regional center in order to transmit "work order status, including completed, in service, or not completed; location information; scheduling information; or any other required information" (e.g., a service processing particulars));

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to assign service personnel near to the machine and to monitor work order status as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "automatically routes pending, unassigned service requests or work orders in accordance with a predefined algorithm to account for skill and distance factors." (Harrison, page 1 ¶ 0012). In addition, it provides "an integrated computer and display system for conveying information regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1 ¶ 0006).

Further it is noted that the intended use of requesting a fault service of a sewing machine merely represents non-functional descriptive material wherein the intended use of the system/method does not alter the recited structural elements. The recited method steps would be performed the same regardless of the specific data and/or intended use of requesting a fault service. Further, the structural elements remain the same regardless of the specific data and/or intended use of requesting a fault service. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381,

1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.

Further a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Claim 2:

Kwak as shown discloses a technical support method, the method comprising:

- *transmitting a service request information through cable and wireless communication networks where the sewing machine is stopped by a fault* (page 1, ¶ 0007 and 0008: which teaches that "an embroidery machine technical support system and method allowing an embroidery (e.g., sewing) machine to communicate with an technical support server" when "an embroidery operation is stopped by the fault of the embroidery machine");

- *to the sewing machine* (Figures 1 and 2 which they illustrate an embroidery system 200 with a communication interface);

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitation. However, Harrison in an analogous art of providing technical support for the purpose of assigns and locates technicians (e.g., first service personnel) and to monitor technicians progress (page 1, ¶ 0006, 0012) as shown does:

- *transmitting a location information of service personnel; in a service regional center which receives the service request information* (page 2, ¶ 0025-0026: which teaches that "[t]echnicians typically communicate work order status, including completed, in service, or not completed; location information; scheduling

information; or any other required information" to a service regional center through

a server);

- *searching and storing the location information of the service personnel received from the service regional center* (Figure 3 and page 1, ¶ 0006: which teaches that "an integrated computer and display system" (e.g., the service regional center) "for conveying information regarding the location" (e.g., searching and storing the location information) "of technicians" (e.g., the service personnel) "and the status of work orders to a dispatcher graphically")

- *and transmitting the service request information to a first service personnel terminal nearest to the machine in the (sewing) machine* (Page 2, ¶ 0023 and Figure 8, which it illustrates the assignment process in a service regional center and after receiving the service request information (e.g., work order) performs a distance comparison to assign the nearest personnel to the machine/equipment where a dispatcher assign the work order to a technician (e.g., "the technicians 110 communicate, primarily with the dispatcher"). In addition, page 4 ¶ 0050 Harrison teaches that "[t]he comparison is made between work order i's location and the qualified technicians' assigned start and end points, as well as to other previously assigned work orders. The technician having the minimum distance" (e.g., a first service personnel nearest) "in any of these comparisons will be assigned the work order");

- *and transmitting a service processing particulars to the service regional center through the terminal of the first service personnel, after the fault service is completed by the first service personnel* (page 2, ¶ 0023 and 0025-0026: which teaches that "[t]echnicians" (e.g., first service personnel) "may communicate over communications system 106 by telephone, cellular telephone, radio, wireless computer, or any other means of communicating" (e.g., the terminal) to the service

regional center in order to transmit "work order status, including completed, in service, or not completed; location information; scheduling information; or any other required information" (e.g., a service processing particulars));

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to assign and locate service personnel near to the machine and to monitor work order status as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "automatically routes pending, unassigned service requests or work orders in accordance with a predefined algorithm to account for skill and distance factors." (Harrison, page 1 ¶ 0012). In addition, it provides "an integrated computer and display system for conveying information regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1 ¶ 0006).

Further it is noted that the intended use of requesting a fault service of a sewing machine merely represents non-functional descriptive material wherein the intended use of the system/method does not alter the recited structural elements. The recited method steps would be performed the same regardless of the specific data and/or intended use of requesting a fault service. Further, the structural elements remain the same regardless of the specific data and/or intended use of requesting a fault service. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.

Further a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Claim 4:

Kwak as shown discloses the following limitation:

- *detecting a cause of the fault by itself where the sewing machine is stopped by the fault* (page 1, ¶ 0009 and page 2 ¶ 0030: which teaches that "detecting that an embroidery operation is stopped by the fault of the embroidery machine" where "a fault detection signal" is generated "by the fault detector" (e.g., the fault by itself));

- *displaying the detected cause of the fault on a screen of the sewing machine* (Figure 3, which it illustrates a technical support server of the embroidery machine and page 2, ¶ 0031: which teaches that "[t]he display unit 250 displays the fault detection signal");

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitation. However, Harrison in an analogous art of providing technical support for the purpose of manually transmit a service request information (page 2, ¶ 0023, 0026) as shown does:

- *and manually transmitting the service request information to the service regional center through a cable and wireless communication networks by an operator, according to the fault cause* (page 2, ¶ 0023, 0026: which teaches that "[c]ommunications system 106 may be a standard telephone, " (e.g., cable) "a cellular phone," (e.g., wireless) "a facsimile, pager, e-mail, or any other means of communicating" where "[s]ubscribers typically communicate service requests to service representative 102." (e.g., the service regional center) "These service requests may include reception difficulty, disconnection requests, addition or deletion of channels, or any other service request" (e.g., the fault cause));

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to manually transmit a service request information as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "automatically routes pending, unassigned service requests or work orders in accordance with a predefined algorithm to account

for skill and distance factors." (Harrison, page 1 ¶ 0012). In addition, it provides "an integrated computer and display system for conveying information regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1 ¶ 0006).

Claim 5:

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitations. However, Harrison in an analogous art of providing technical support for the purpose of assigns and locates technicians (e.g., first service personnel) and to monitor technicians progress (page 1, ¶ 0006, 0012) as shown does:

- *detecting a location information of the (sewing) machine according to the service request information in the service regional center which receives the service request information* (Figure 3 and pages 2-3, ¶ 0029: which teaches that "a service request that is assigned to a technician may be shown as 302. A service request that has been canceled may be shown as 304. A service request that has been completed by a technician may be shown as 306. A service request that is currently being serviced by a technician may be shown as 308. A service request that is unassigned may be shown as 310. A service request that represents an outage may be shown as 312." Harrison teaches that these different icons represent the various statuses of a service request which shows the location information of each machine as well the technician location);

- *and detecting a location information of the first service personnel according to the location information received from the terminal of the first service personnel in the service regional center* (page 2, ¶ 0026: which teaches that "technician location may be tracked using a global positioning system sensor, which transmits the technician location to the server directly. Other means of transmitting location or

data to the server may also be used." Harrison teaches that technician (e.g., first

service personnel) are located by using a global positioning system sensor);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to locate service personnel and the machine as taught by Harrison, to improve Kwak,

thereby giving the predictable result of providing "graphical representations of service requests or

work orders on a map in accordance with their actual positions" (Harrison, page 1, ¶ 0012). In

addition, it provides "an integrated computer and display system for conveying information

regarding the location of technicians and the status of work orders to a dispatcher graphically."

(Harrison, page 1 ¶ 0006).

Claim 6:

Kwak teaches technical support server and a plurality of embroidery/sewing machines

communicating with the technical support server through public network. Kwak does not teach the

following limitations. However, Harrison in an analogous art of providing technical support for the

purpose of assigns and locates technicians (e.g., first and second service personnel) and to

monitor technicians progress (page 1, ¶ 0006, 0012) as shown does:

- *transmitting a message, in which a business trip on the (sewing) machine is*

  impossible, from the first service personnel to the service regional center (page 2, ¶

  0026: which teaches that "[t]echnicians typically communicate work order status,

  including completed, in service, or not completed; location information; scheduling

  information;" (e.g., a business trip is impossible) "or any other required

  information");

- *transmitting the service request information received from the (sewing) machine to*

  a second service personnel terminal nearer to the (sewing) machine (Figure 8 and

  page 4 ¶ 0050: which teaches that if a technician does not have time, the

  assignment process calculates a distance comparison and determines "if any of the

  qualified technicians" (e.g., a second service personnel) "have available time to

complete the work order". If the technician is available, the work order is assigned and the technician schedule is updated (e.g., transmitting the service request information));

- *and transmitting a service processing particulars to the service regional center through the terminal of the second service personnel, after the fault service is completed by the second service personnel* (page 2, ¶ 0023 and 0025-0026: which teaches that "[t]echnicians" (e.g., second service personnel) "may communicate over communications system 106 by telephone, cellular telephone, radio, wireless computer, or any other means of communicating" (e.g., the terminal) to the service regional center in order to transmit "work order status, including completed, in service, or not completed; location information; scheduling information; or any other required information" (e.g., a service processing particulars));

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to assign and locate service personnel near a machine as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "graphical representations of service requests or work orders on a map in accordance with their actual positions" (Harrison, page 1, ¶ 0012). In addition, it provides "an integrated computer and display system for conveying information regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1 ¶ 0006).

Claim 7:

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitation. However, Harrison in an analogous art of providing technical support for the purpose of receiving service request information and service processing particulars from the service personnel (page 2, ¶ 0023, 00126) as shown does:

- *further comprising the steps of receiving the service request information of the (sewing) machine and the service processing particulars of the first or second service personnel in an agency terminal* (page 2, ¶ 0023, 0026 and Figure 1, which it illustrates a computer-aided technician dispatch where the service request information is received from the subscribers 108 and the service processing particular of the first or second service personnel are received through the communication system 106 which are coupled to server 116);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to receive service request information and service processing particulars as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "automatically routes pending, unassigned service requests or work orders in accordance with a predefined algorithm to account for skill and distance factors." (Harrison, page 1, ¶ 0012). In addition, it provides "an integrated computer and display system for conveying information regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1, ¶ 0006).

Claim 8:

Kwak as shown discloses the following limitation:

- *including machine antecedents* (page 2, ¶ 0034: which teaches that "[t]he fault-symptom information database 310 classifies and stores the fault symptom information" (e.g., machine antecedents));

- *embroidery-parts information of the machine, and manuals* (page 1 ¶ 0007 and pages 2-3, ¶ 0034: which teaches that "[t]he embroidery-parts information database 320 classifies and stores an embroidery-parts information of embroidery parts configuring the embroidery machine 200" and receive "various information related to the embroidery machine (e.g., manuals));

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the

following limitation. However, Harrison in an analogous art of providing technical support for the purpose of inquiring and receiving information in order to transmit the information to the service personnel (page 1, ¶ 0006, 0012) as shown does:

- *further comprising the steps of inquiring about and receiving an information* (Figure 2, which it illustrates "receive service request 200" (e.g., receiving an information) and "get info 204" (e.g., inquiring about));

- *next to connect the first or second service personnel terminal to any one of the service regional center and the agency terminal of the machine through the cable and wireless communication networks* (Figures 1-4: which they illustrates that after receiving information, the service request is entered into the service request and work order terminal. The service area is selected (e.g., service regional centers) in order to dispatch work orders according to each service regional center through the communication system 106 which is coupled to server 116);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to inquire, receive and transmit service request information as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "an integrated computer and display system for conveying information regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1 ¶ 0006).

Claims 9 and 18:

Kwak as shown discloses the following limitation:

- *wherein the service request information includes a machine fault particulars* (page 2, ¶ 0034: which teaches that "[t]he fault-symptom information database 310 classifies and stores the fault symptom information" (e.g., machine fault particulars));

- *a machine information* (page 1 ¶ 0007 and pages 2-3, ¶ 0034: which teaches that "[t]he embroidery-parts information database 320 classifies and stores an

embroidery-parts information of embroidery parts configuring the embroidery machine 200" and receive "various information related to the embroidery machine (e.g., manuals));

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitation. However, Harrison in an analogous art of providing technical support for the purpose of locating machines (page 2, ¶ 0027) as shown does:

- *and a machine location information* (page 2, ¶ 0027: which teaches that "the service representative may have the potential subscriber give necessary subscriber information, which may include name, address," (e.g., a machine location information) "telephone number, etc.");

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to locate the machine as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "graphical representations of service requests or work orders on a map in accordance with their actual positions" (Harrison, page 1, ¶ 0012).

Claim 10:

Kwak as shown discloses a technical support system, the system comprising:

- *a sewing machine for transmitting a service request information through cable and wireless communication networks during its fault* (page 1, ¶ 0007 and 0008: which teaches that "an embroidery machine technical support system and method allowing an embroidery (e.g., sewing) machine to communicate with an technical support server" when "an embroidery operation is stopped by the fault of the embroidery machine");

- *of the sewing machine; from the sewing machine* (Figures 1 and 2 which they illustrate an embroidery system 200 with a communication interface);

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitation. However, Harrison in an analogous art of providing technical support for the purpose of assigns and locates technicians (e.g., first service personnel) and to monitor technicians progress (page 1, ¶ 0006, 0012) as shown does:

- *a service regional center for searching a location information by using the service request information received* (Figure 3 and pages 2-3, ¶ 0029: which teaches that "a service request that is assigned to a technician may be shown as 302. A service request that has been canceled may be shown as 304. A service request that has been completed by a technician may be shown as 306. A service request that is currently being serviced by a technician may be shown as 308. A service request that is unassigned may be shown as 310. A service request that represents an outage may be shown as 312." Harrison teaches that these different icons represent the various statuses of a service request which shows the location information of each machine as well the technician location);

- *detecting a location information of a service personnel from a location signal of a terminal of the service personnel* (page 2, ¶ 0026: which teaches that "technician location may be tracked using a global positioning system sensor, which transmits the technician location to the server directly. Other means of transmitting location or data to the server may also be used." Harrison teaches that technician (e.g., service personnel) are located by using a global positioning system sensor);

- *and transmitting the service request information to the terminal of the service personnel nearest to the (sewing) machine* (Page 2, ¶ 0023 and Figure 8, which it illustrates the assignment process in a service regional center and after receiving the service request information (e.g., work order) performs a distance comparison to assign the nearest personnel to the machine/equipment where a dispatcher

assign the work order to a technician (e.g., "the technicians 110 communicate, primarily with the dispatcher"). In addition, page 4 ¶ 0050 Harrison teaches that "[t]he comparison is made between work order i's location and the qualified technicians' assigned start and end points, as well as to other previously assigned work orders. The technician having the minimum distance" (e.g., a first service personnel nearest) "in any of these comparisons will be assigned the work order");

- *and the terminal of the service personnel for receiving the service request information from the service regional center and transmitting a location information thereof and a service processing particulars to the service regional center* (Figure 1 which it illustrates a computer-aided technician dispatch and page 2, ¶ 0023: which teaches that "[t]echnicians" (e.g., service personnel) "may communicate over communications system 106 by telephone, cellular telephone, radio, wireless computer, or any other means of communicating." (e.g., the terminal of the service personnel) where the service personnel receive the service request information from the service regional center (e.g., dispatcher) and transmit "work order status, including completed, in service, or not completed; location information; scheduling information; or any other required information" (e.g., a service processing particulars));

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to assign and locate service personnel near to the machine and to monitor work order status as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "automatically routes pending, unassigned service requests or work orders in accordance with a predefined algorithm to account for skill and distance factors." (Harrison, page 1 ¶ 0012). In addition, it provides "an integrated computer and display system for conveying information regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1 ¶ 0006).

Further it is noted that the intended use of requesting a fault service of a sewing machine merely represents non-functional descriptive material wherein the intended use of the system/method does not alter the recited structural elements. The recited method steps would be performed the same regardless of the specific data and/or intended use of requesting a fault service. Further, the structural elements remain the same regardless of the specific data and/or intended use of requesting a fault service. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.

Further a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Claim 11:

Kwak as shown discloses a technical support system, the system comprising:

- *a sewing machine for transmitting a service request information through cable and wireless communication networks during its fault* (page 1, ¶ 0007 and 0008: which teaches that "an embroidery machine technical support system and method allowing an embroidery (e.g., sewing) machine to communicate with an technical support server" when "an embroidery operation is stopped by the fault of the embroidery machine");

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitation. However, Harrison in an analogous art of providing technical support for the purpose of assigns and locates technicians (e.g., first service personnel) and to monitor technicians progress (page 1, ¶ 0006, 0012) as shown does:

- *receiving a location information of a service personnel from a service regional center* (page 2, ¶ 0026: which teaches that "technician location may be tracked using a global positioning system sensor, which transmits the technician location to the server directly. Other means of transmitting location or data to the server may also be used." Harrison teaches that technician (e.g., service personnel) are located by using a global positioning system sensor);

- *and transmitting the service request information to a terminal of the service personnel nearest to the (sewing) machine* (Page 2, ¶ 0023 and Figure 8, which it illustrates the assignment process in a service regional center and after receiving the service request information (e.g., work order) performs a distance comparison to assign the nearest personnel to the machine/equipment where a dispatcher assign the work order to a technician (e.g., "the technicians 110 communicate, primarily with the dispatcher"). In addition, page 4 ¶ 0050 Harrison teaches that "[t]he comparison is made between work order i's location and the qualified technicians' assigned start and end points, as well as to other previously assigned work orders. The technician having the minimum distance" (e.g., a first service personnel nearest) "in any of these comparisons will be assigned the work order");

- *a service regional center for receiving and detecting the location information of the service personnel from a location signal of the terminal of the service personnel* (Figure 3 and pages 2-3, ¶ 0029: which teaches that "a service request that is assigned to a technician may be shown as 302. A service request that has been canceled may be shown as 304. A service request that has been completed by a technician may be shown as 306. A service request that is currently being serviced by a technician may be shown as 308. A service request that is unassigned may be shown as 310. A service request that represents an outage may be shown as 312." Harrison teaches that these different icons represent the various statuses of a

service request which shows the location information of each machine as well the

technician location);

- *and transmitting the location information of the service personnel to the (sewing) machine, in response to the service request information received through the cable and wireless communication networks* (page 2, ¶ 0024 which teaches that "[s]ervice representative 112 may be required to contact subscribers" (e.g., machine location) "108 in the event of scheduling difficulties or for other reasons");

- *and the terminal of the service personnel for receiving the service request information from the (sewing) machine, and transmitting its location information and a service processing particulars to the service regional center* (Figure 1 which it illustrates a computer-aided technician dispatch and page 2, ¶ 0023: which teaches that "[t]echnicians" (e.g., service personnel) "may communicate over communications system 106 by telephone, cellular telephone, radio, wireless computer, or any other means of communicating." (e.g., the terminal of the service personnel) where the service personnel receive the service request information from the service regional center (e.g., dispatcher) and transmit "work order status, including completed, in service, or not completed; location information; scheduling information; or any other required information" (e.g., a service processing particulars));

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to assign and locate service personnel near to the machine and to monitor work order status as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "automatically routes pending, unassigned service requests or work orders in accordance with a predefined algorithm to account for skill and distance factors." (Harrison, page 1 ¶ 0012). In addition, it provides "an integrated computer and display system for conveying information

regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1 ¶ 0006).

Further it is noted that the intended use of requesting a fault service of a sewing machine merely represents non-functional descriptive material wherein the intended use of the system/method does not alter the recited structural elements. The recited method steps would be performed the same regardless of the specific data and/or intended use of requesting a fault service. Further, the structural elements remain the same regardless of the specific data and/or intended use of requesting a fault service. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.

Further a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Claim 12:

Kwak as shown discloses the following limitation:

- *a storage for storing a plurality of embroidery design files and an embroidery design program* (Figure 2, "Storage 210" and claim 2: which teaches that "a storage containing embroidery operation programs" (e.g., an embroidery design program);

- *an input unit for inputting an embroidery design file selection signal and an operation start/stop signal of the sewing machine from an operator* (Figure 2, "Input Unit 240" and page 3, ¶ 0050: which teaches that "the user presses a turn-on key to start the embroidery operation with the input unit 240")

- *an embroidery operation unit for embroidering a cloth in response to the signals inputted by the operator through the input unit* (Figure 2, "Embroidery Unit 270");

- *an operating fault detector for detecting a cause of the fault of the sewing machine* (Figure 2, "Fault Detector 220");

- *a display unit for displaying information including the location information of the service personnel, the fault information of the embroidery machine, and the embroidery design files and the embroidery design program stored in the storage on a screen thereof* (Figure 2, "Display Unit 250", Figure 6, which it illustrates an screen shot of the fault information of the embroidery machine);

- *a signal transmitting and receiving unit for transmitting and receiving data between the sewing machine and any one of the service regional center and the terminal of the service personnel terminal through the cable and wireless communication networks* (page 5, ¶ 0064: which teaches that "since the embroidery machine is provided with the emulator in order for the embroidery machine to communicate (e.g., transmitting and receiving data) "with the technical support server," (e.g., the terminal of the service personnel) "the user can obtain technical information on the embroidery machine from the remote" (e.g., cable and wireless communication) "technical support server in real time" (e.g., one of the service regional center));

- *a service processing program storage for storing the service processing programs for processing the fault service* (Figure 3, which it illustrates a "server computer system 300" storing "Fault-Symptom Information Database" and Figure 4, which it illustrates the service processing programs for processing the fault service);

- *and a control unit for controlling a whole operation of the sewing machine* (Figure 2, "Controller 230");

Kwak does not expressly disclose the specific limitations of a sewing machine. However, the Examiner takes **Official Notice** that is old and well known in sewing/embroidery machines to store a plurality of embroidery design files and sewing pattern files, to input an embroidery design

file or sewing pattern file selection signal and an operation start/stop signal of the sewing machine from an operator, embroidery and sewing a cloth in response to the signals, a fault detector to detect a cause of the fault, display a fault message, embroidery/sewing design/pattern files and programs as evidenced by the Description of the Prior Art that "[g]enerally, an embroidery machine comprises an embroidery operation program for automatically embroidering an embroidery design. The embroidery machine includes storage, an input unit, a controller, an embroidery machine, and a fault detector. The storage stores an embroidery design data. The input unit inputs an embroidery design selection signal, and an embroidery operation start/stop signal from the user. The controller controls the embroidery machine in response to an user's request. The embroidery machine embroiders the selected embroidery design. The fault detector detects the fault of the embroidery machine if the embroidery operation is stopped by the fault of the embroidery machine".(Kwak, Description of the Prior Art, page 1, ¶ 0002-0003)

It is noted that these differences are only found in the non-functional descriptive material and are not functionally involved in the steps recited nor do they alter the recited structural elements. The recited method steps would be performed the same regardless of the specific data. Further, the structural elements remain the same regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP ' 2106.

Claim 13:

As per **claim 13**, this claim encompasses substantially the same scope as claim 12 (e.g., embroidery or sewing machine, Specification, page 1, 3rd ¶). Accordingly, claim 13 is rejected in substantially the same manner as claim 12, as described above.

Claim 14:

Kwak discloses the following limitation:

- *wherein the service processing program storage includes a service automatic processing program for automatically transmitting the service request information*

through the cable and wireless communication networks during the fault of the sewing machine (page 2, ¶ 0032: which teaches that "[t]he communication interface" (e.g., cable an wireless communication networks) "transmit the technical support request" (e.g., the service request information) "to the technical support server" (e.g., the service regional center));

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitation. However, Harrison in an analogous art of providing technical support for the purpose of manually transmit a service request information (page 2, ¶ 0023, 0026) as shown does:

- *and a service manual processing program for manually transmitting the service request information by the operator through the cable and wireless communication networks during the fault of the sewing machine* (page 2, ¶ 0023, 0026: which teaches that "[c]ommunications system 106 may be a standard telephone, " (e.g., cable) "a cellular phone," (e.g., wireless) "a facsimile, pager, e-mail, or any other means of communicating" where "[s]ubscribers typically communicate service requests to service representative 102." (e.g., the service regional center));

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to manually transmit a service request information as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "automatically routes pending, unassigned service requests or work orders in accordance with a predefined algorithm to account for skill and distance factors." (Harrison, page 1 ¶ 0012). In addition, it provides "an integrated computer and display system for conveying information regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1 ¶ 0006).

Claim 15:

Kwak as shown discloses the following limitation:

- *a machine antecedents management database for storing the machine antecedents information of the sewing machine* (Figure 3, "Fault-Symptom Information Database 310" (e.g., machine antecedents information));

- *a machinery-parts database for itemizing and storing the machine-parts information of the sewing machine* (Figure 3, "Embroidery-Parts Information Database 320" (e.g., a machinery-parts information))

- *a service information management database for storing a base service information of each nation of the sewing machine* (page 3, ¶ 0038: which teaches that "[t]he web page 600 further includes part information page 645, which displays specification of a selected part when a model and a part of the embroidery machine 200 of that model is selected". Kwak teaches that information of each nation of the sewing machine are stored in order to display a model and a part of the embroidery machine);

- *and a manual management database for storing a manual by a specification of the sewing machine* (page 3, ¶ 0038: which teaches that "[t]he web page 600 further includes part information page 645, which displays specification of a selected part when a model and a part of the embroidery machine 200 of that model is selected". Kwak teaches that manuals by a specification of the sewing machine are stored in order to display specification of a selected part);

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitation. However, Harrison in an analogous art of providing technical support for the purpose of accepting and processing particulars (page 2, ¶ 0021, 0026-0027) as shown does:

- *a service accepting particulars management database for storing the service request information received from the sewing machine* (Figure 1 and page 2, ¶

0027: which teaches that "the service request is entered into the service request input terminal 100" through server 116 which includes a database);

- *a service processing particulars management database for storing the service processing particulars received from the service personnel* (Figure 1 and page 2, ¶ 0021: which teaches that "[b]oth subscriber service request input terminal 100 and work order/technician information input terminal 102 are coupled to server 116. Server 116 may comprise map generation means 118, service request/work order processing means 120, routing means 122, and a database");

- *a service personnel location information database for storing the location information of the service personnel* (page 2, ¶ 0026: which teaches that "technician location may be tracked using a global positioning system sensor, which transmits the technician location to the server directly. Other means of transmitting location or data to the server may also be used.");

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use databases for storing services accepting and processing particulars and service personnel location as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "automatically routes pending, unassigned service requests or work orders in accordance with a predefined algorithm to account for skill and distance factors." (Harrison, page 1 ¶ 0012). In addition, it provides "an integrated computer and display system for conveying information regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1 ¶ 0006).

Claim 16:

Kwan discloses the following limitation:

- *a signal transmitting and receiving module for transmitting and receiving data to the sewing machine or the terminal of the service personnel* (Figure 1, "Communication Network 100", Figure 2 "Communication Interface 260" (e.g., transmitting and

receiving data to the sewing machine) and Figure 3 "Communication Supporting Module 340");

- *and an information providing supporting module for transmitting the information stored in the databases to the service personnel terminal* (Figure 3 "Information Providing Module 330");

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitation. However, Harrison in an analogous art of providing technical support for the purpose of manually transmit a service request information (page 2, ¶ 0023, 0026) as shown does:

- *a service accepting and processing module for transmitting the service request information stored in the service accepting particulars management database to the terminal of the service personnel and storing the service processing particulars received from the terminal of the service personnel in the service processing particulars management database* (Figure 1 and page 2, ¶ 0021: which teaches that "[b]oth subscriber service request input terminal 100" (e.g., accepting) "and work order/technician information input terminal 102" (e.g., processing) "are coupled to server 116. Server 116 may comprise map generation means 118, service request/work order processing means 120, routing means 122, and a database" (e.g., service processing particulars management database));

- *a service personnel location information module for detecting the location information of the service personnel according to the location signal received from the terminal of the service personnel terminal and storing the location information in the service personnel location information database* (Figure 3 and page 2, ¶ 0026: which teaches that "technician location may be tracked using a global positioning

system sensor, which transmits the technician location to the server directly. Other

means of transmitting location or data to the server may also be used.");

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to use modules to transmits services accepting and processing and to locate service

personnel as taught by Harrison, to improve Kwak, thereby giving the predictable result of

providing "automatically routes pending, unassigned service requests or work orders in

accordance with a predefined algorithm to account for skill and distance factors." (Harrison, page

1 ¶ 0012). In addition, it provides "an integrated computer and display system for conveying

information regarding the location of technicians and the status of work orders to a dispatcher

graphically." (Harrison, page 1 ¶ 0006).

Claim 17:

Kwan discloses the following limitation:

- *wherein a signal transmitting and receiving unit for transmitting data between the
  sewing machine and the service regional center through the cable and wireless
  communication networks* (Figure 1, which it illustrates a signal transmitting and
  receiving unit (e.g., communication network) between the sewing machine (e.g.,
  embroidery system) and the service regional center (e.g., server computer
  system));

- *a display unit for displaying various information of the sewing machine in response
  to the signal inputted by the service personnel through the input unit on the screen
  thereof* (Figures 6-13, which they illustrates a display unit screen shots displaying
  various information of the sewing machine)

Kwak teaches technical support server and a plurality of embroidery/sewing machines

communicating with the technical support server through public network. Kwak does not teach the

following limitation. However, Harrison in an analogous art of providing a computer-aided

technical support for the purpose of automates both the assignment of technicians to subscribers and monitoring the technician's progress (page 1, ¶ 0006) as shown does:

- *an input unit for inputting a signal for controlling an operation of the service personnel* (page 2, ¶ 0023: which teaches that technicians (e.g., service personnel) communicates through a "wireless computer" which is well known in the art that includes an input unit)

- *a location signal generation unit for periodically generating the location information informing the present location of the service personnel* (Figure 3 and page 2, ¶ 0026: which teaches that "technician location may be tracked using a global positioning system sensor, which transmits the technician location to the server directly. Other means of transmitting location or data to the server may also be used.");

- *a ROM for storing the programs for operating and controlling the whole system of the service personnel terminal; a RAM for storing various information received from the sewing machine and the service regional center and a control processing unit for operating and controlling the whole system of the terminal of the service personnel* (page 2, ¶ 0023: which teaches that technicians (e.g., service personnel) communicates through a "wireless computer" which is well known in the art that ROM, RAM and control processing unit (e.g., CPU) are components of a computer)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to locate service personnel as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "automatically routes pending, unassigned service requests or work orders in accordance with a predefined algorithm to account for skill and distance factors." (Harrison, page 1 ¶ 0012). In addition, it provides "an integrated computer and display system for conveying information regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1 ¶ 0006).

Claim 19:

Kwak as shown discloses a technical support system, the system comprising:

- *a terminal of an operator for transmitting a service request information through cable and wireless communication networks during a fault of the sewing machine* (Figure 14, which it illustrates a plurality of terminals and page 1, ¶ 0007 and 0008: which teaches that "an embroidery machine technical support system and method allowing an embroidery (e.g., sewing) machine to communicate with an technical support server" when "an embroidery operation is stopped by the fault of the embroidery machine");

Kwak teaches technical support server and a plurality of embroidery/sewing machines communicating with the technical support server through public network. Kwak does not teach the following limitation. However, Harrison in an analogous art of providing technical support for the purpose of assigns and locates technicians (e.g., first service personnel) and to monitor technicians progress (page 1, ¶ 0006, 0012) as shown does:

- *a service regional center for searching a location information of the sewing machine by using the service request information received from the terminal of the operator* (Figure 3 and pages 2-3, ¶ 0029: which teaches that "a service request that is assigned to a technician may be shown as 302. A service request that has been canceled may be shown as 304. A service request that has been completed by a technician may be shown as 306. A service request that is currently being serviced by a technician may be shown as 308. A service request that is unassigned may be shown as 310. A service request that represents an outage may be shown as 312." Harrison teaches that these different icons represent the various statuses of a service request which shows the location information of each machine as well the technician location);

- *detecting a location information of a service personnel from a location signal of a terminal of the service personnel* (page 2, ¶ 0026: which teaches that "technician location may be tracked using a global positioning system sensor, which transmits the technician location to the server directly. Other means of transmitting location or data to the server may also be used." Harrison teaches that technician (e.g., service personnel) are located by using a global positioning system sensor);

- *and transmitting the service request information to the terminal of the service personnel nearest to the (sewing) machine* (Page 2, ¶ 0023 and Figure 8, which it illustrates the assignment process in a service regional center and after receiving the service request information (e.g., work order) performs a distance comparison to assign the nearest personnel to the machine/equipment where a dispatcher assign the work order to a technician (e.g., "the technicians 110 communicate, primarily with the dispatcher"). In addition, page 4 ¶ 0050 Harrison teaches that "[t]he comparison is made between work order i's location and the qualified technicians' assigned start and end points, as well as to other previously assigned work orders. The technician having the minimum distance" (e.g., a first service personnel nearest) "in any of these comparisons will be assigned the work order");

- *and the terminal of the service personnel for receiving the service request information from the service regional center and transmitting its location information and a service processing particulars to the service regional center* (Figure 1 which it illustrates a computer-aided technician dispatch and page 2, ¶ 0023: which teaches that "[t]echnicians" (e.g., service personnel) "may communicate over communications system 106 by telephone, cellular telephone, radio, wireless computer, or any other means of communicating." (e.g., the terminal of the service personnel) where the service personnel receive the service request information from the service regional center (e.g., dispatcher) and transmit "work order status,

including completed, in service, or not completed; location information; scheduling information; or any other required information" (e.g., a service processing particulars));

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to assign and locate service personnel near to the machine and to monitor work order status as taught by Harrison, to improve Kwak, thereby giving the predictable result of providing "automatically routes pending, unassigned service requests or work orders in accordance with a predefined algorithm to account for skill and distance factors." (Harrison, page 1 ¶ 0012). In addition, it provides "an integrated computer and display system for conveying information regarding the location of technicians and the status of work orders to a dispatcher graphically." (Harrison, page 1 ¶ 0006).

Further it is noted that the intended use of requesting a fault service of a sewing machine merely represents non-functional descriptive material wherein the intended use of the system/method does not alter the recited structural elements. The recited method steps would be performed the same regardless of the specific data and/or intended use of requesting a fault service. Further, the structural elements remain the same regardless of the specific data and/or intended use of requesting a fault service. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.

Further a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Claim 20:

Kwan discloses the following limitation:

- *wherein the terminal of an operator is a wire data terminal, a wireless data terminal, a PDA (Personal Digital Assistant) or a PC (Personal Computer)* (Figure 14 which it illustrates a PC 21, a PDA 22, a notebook PC 23 and a mobile phone);

12.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwak (US 2003/0065418 A1) in view of Harrison et al (US 2003/0069797 A1) hereinafter "Harrison" as applied to claims 1-2 and 4-20 as applied above further in view of Hedman et al (US 6,445,970 B1) hereinafter "Hedman".

Claim 3:

Kwan discloses the following limitation:

- *detecting a cause of the fault by itself where the sewing machine is stopped by the fault* (page 1, ¶ 0009 and page 2 ¶ 0030: which teaches that "detecting that an embroidery operation is stopped by the fault of the embroidery machine" where "a fault detection signal" is generated "by the fault detector" (e.g., the fault by itself));

- *displaying the detected cause of the fault on a screen of the sewing machine* (Figure 3, which it illustrates a technical support server of the embroidery machine and page 2, ¶ 0031: which teaches that "[t]he display unit 250 displays the fault detection signal");

- *and automatically transmitting the service request information to the service regional center through a cable and wireless communication networks* (page 2, ¶ 0032: which teaches that "[t]he communication interface" (e.g., cable an wireless communication networks) "transmit the technical support request" (e.g., the service request information) "to the technical support server" (e.g., the service regional center));

The combination of Kwak and Harrison does not expressly teach the following limitation. However, Hedman in an analogous art of repairing a sewing and embroidery machines for the

purpose of requesting a fault service due to a pre-setting fault (columns 1-2, lines 66-67 and 1-8 respectively) as shown does:

- *where a cause of the stop of the machine corresponds to pre-setting fault items inputted to the machine in advance* (column 7, lines 41-45: which teaches that "[a]t block 264, a communication is conducted related to finding the z-index (headup)." (e.g., inputted to the machine in advance). "Depending on the presence of such a condition," (e.g., a pre-setting fault items) "the following status or error messages can be generated: No. **31** —emergency stop button engaged, the button can be released when safe;" (e.g., the machine is stopped by the fault);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to pre-set fault items inputted to the machine in advance as taught by Hedman, to improve the combination of Kwak and Harrison, thereby giving the predictable result of generating "specific status or error messages, which may help narrow the potential source of the problem and thus reduce the amount of time needed to find and correct the problem." (Hedman, columns 1-2 lines 67 and 1-3 respectively).

Conclusion

13.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Fong et al, **An intelligent online machine fault diagnosis system**, *Computing & Control Engineering Journal* October 2001 which disclose a help-desk system that supports online machine fault diagnosis over the internet.

- Welch (US 2002/013877 A1) disclose a system and method for remote monitoring and maintenance management of vertical transportation equipment.

- Kim (US 6,370,443 B2) disclose an embroidery machine with operation-data storing function and method for controlling same.

- Rubel (US 6,317,664 B1) disclose a monitor and malfunction predictor for textile machines.

- Kwak (US 6,311,097 B2) disclose a fault diagnosis system and method for diagnosis a fault of an embroidery machine.

- Kwak (US 2001/0027353 A1) disclose a fault diagnosis system and method for diagnosis a fault of an embroidery machine.

- Goldberg et al (US 6,216,618 B1) disclose an embroidery system utilizing windows CE based GUI.

- Fuji (US 6,023,775) discloses a fault information management system and fault information management method.

- Tomita (US 5,996,518) disclose a sewing machine with warning screen displaying function.

- Glovitz et al (US 5,682,421) disclose methods for implementing automated dispatch system.

- Roscoe (US 5,533,193) disclose a method of saving machine fault information including transferring said information to another memory when an occurrence of predetermined events or faults of a reproduction machine is recognized.

Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **Nadja Chong** whose telephone number is **571.270.3939.** The Examiner can normally be reached on Monday-Friday, 9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **BETH BOSWELL** can be reached at **571.272.6737.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://portal.uspto.gov/external/portal/pair <http://pair-direct.uspto.gov >. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866.217.9197** (toll-free).

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